ALLOWANCE

Continued Examination Under 37 CFR 1.114

[1] A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 June 2008 has been entered.

Notice to Applicant

[2] This communication is in response to the Amendment/Request for Continued Examination (RCE) filed 27 June 2008. Claims 5-7, 1-21, and 23-43 have been cancelled. Claims 1, 3, 8, 9, and 22 have been amended. Claims 44-56 have been added. Claims 1-4, 8-9, 22, and 44-56 are pending.

Allowable Subject Matter

[3] Claims 1-2, 4, 8-9, 22, and 44-56 are allowed.

Claims 1 and 46 are allowed as amended by the Examiner's Amendment below. Claim 3 is cancelled by Examiner's Amendment below. Claims 2, 4, 8, 9, 22, 44-45, and 47-56 are allowed as they appear in the response filed 27 June 2008. There are no addition claims pending in the application.

EXAMINER'S AMENDMENT

[4] An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Anthony P. Filomena (Reg. #44,108) on 19 September 2008.

The application has been amended as follows:

Claim 3 has been cancelled.

Please amend claims 1 and 46 as follows (full text of the amended claims appears below):

Claim 1. A method of improving health and reducing healthcare encounter trends, comprising the steps of:

presenting an individual with a questionnaire designed to elicit said individual's response to each distinct predictive factor of a predetermined set of predictive factors, said predetermined set of predictive factors including domains of functional ability, adherence with current medical treatment, numbers of uses of various healthcare services over past time periods, beliefs in the safety and value of healthcare services, healthcare partnering preferences and information-seeking preferences;

collecting self-reported information from said individual about their perceived health wherein said self-reported information comprises said individual's response to each said distinct predictive factor of said predetermined set of predictive factors;

assigning, based upon said individual's response, a dichotomous value to each said distinct predictive factor of said predetermined set of predictive factors;

calculating, based upon a predetermined predictive model and said dichotomous values assigned to said predetermined set of predictive factors, a probability value of said individual becoming a high-encounter user of healthcare services for any reason within a prospective time span, wherein a high-encounter user makes high use of inpatient, outpatient, emergency room, or physician office healthcare services, and wherein said calculating is accomplished using a computing device having a processor;

and identifying said individual as a probable high-encounter user of healthcare services within said prospective time span if said probability value of said individual exceeds a predetermined threshold.

Claim 46. A method of improving health and reducing healthcare encounter trends, the method comprising:

designing a self-assessment questionnaire comprising a plurality of questions designed to elicit self-reported information from an individual about their perceived health;

presenting each of a plurality of sample subjects with the self-assessment questionnaire;

collecting a plurality of answers from each of the plurality of sample subjects answering the plurality of questions of the self-assessment questionnaire;

collecting from healthcare claims data, a total number of healthcare encounters for each of the plurality of sample subjects during a predetermined time span, the total number of healthcare encounters being the sum of all uses of inpatient, outpatient, emergency room, and physician office healthcare services by the sample subject within the predetermined time span;

determining a dependent variable based on the total number of healthcare encounters for each of the plurality of sample subjects during the predetermined time span;

determining a set of independent predictor variables based upon the plurality of answers from the self-assessment questionnaire from each of the plurality of sample subjects;

associating each predictor variable of the set of independent predictor variables to at least one of the plurality of questions of the self-assessment questionnaire;

deriving a predictive modeling formula from the dependent variable and the set of independent predictor variables for each of the plurality of sample subjects, the predictive modeling formula being designed to determine a probability value for each individual of a plurality of individuals becoming a high-encounter user of healthcare services for any reason within a prospective time span, and wherein said deriving is accomplished using a computing device having a processor;

determining a threshold value such that the individual will be classified as a probable high-encounter user of healthcare services within the prospective time span if the probability value computed by the predictive modeling formula for the individual exceeds the threshold value;

programming a computing device having a processor with the predictive modeling formula and the threshold value for the purpose of using said computing device and said predictive modeling formula to identify individuals as probable high-encounter users of healthcare services within a prospective time span if said probability value of said individuals exceeds a predetermined threshold.

REASONS FOR ALLOWANCE

[5] The following is an examiner's statement of reasons for allowance:

Claim 1

The prior art of record neither anticipates nor supports a conclusion of obviousness with respect to the allowable subject matter of claim 1. The prior art of record fails to define a method of improving health and reducing healthcare encounter trends, comprising the steps of: presenting an individual with a questionnaire designed to elicit said individual's response to each distinct predictive factor of a predetermined set of predictive factors, said predetermined set of predictive factors including domains of functional ability, adherence with current medical treatment, numbers of uses of various healthcare services over past time periods, beliefs in the safety and value of healthcare services, healthcare partnering preferences and information-seeking preferences; collecting self-reported information from said individual about their perceived health wherein said self-reported information comprises said individual's response to each said distinct predictive factor of said predetermined set of predictive factors; assigning, based upon said individual's response, a dichotomous value to each said distinct predictive factor of said predetermined set of predictive factors; calculating, based upon a predetermined predictive model and said dichotomous values assigned to said predetermined set of predictive factors, a probability value of said individual becoming a high-encounter user of healthcare services for any reason within a prospective time span, wherein a high-encounter user makes

high use of inpatient, outpatient, emergency room, or physician office healthcare services, and wherein said calculating is accomplished using a computing device having a processor; and identifying said individual as a probable high-encounter user of healthcare services within said prospective time span if said probability value of said individual exceeds a predetermined threshold..

Applicant's remarks filed in the amendment filed 27 June 2008 are compelling and commensurate with both the original disclosure and the claims as amended.

The most closely applicable prior art of record is referred to in the Office Action mailed 31 December 2007 as Wong et al. (United States Patent # 5,976,082). Wong et al. provide a computer-implemented method for generating a model to identify at risk patients diagnosed with congestive heart failure, from information about patients existing in a claims database.

While Wong et al. is similar to the instant application in many respects, there are clear patentable distinctions. Initially, Wong et al. fail teach "…presenting an individual with a questionnaire designed to elicit said individual's response to each distinct predictive factor of a predetermined set of predictive factors, said predetermined set of predictive factors including domains of functional ability, adherence with current medical treatment, numbers of uses of various healthcare services over past time periods, beliefs in the safety and value of healthcare services, healthcare partnering preferences and information-seeking preferences…", as a required by claim 1. Secondly, Wong et al fail to disclose "…identifying said individual as a probable high-

encounter user of healthcare services within said prospective time span if said probability value of said individual exceeds a predetermined threshold…" as also required by claim 1.

In contrast to the claims based source data of Wong et al., the instant invention employs self-reported information gathered directly from the patient in conjunction with data derived from claims. In the context of the instant invention, the application of self-reported data enables the assessment of multiple factors that are not made evident by an exclusively claims based approach. More specifically, claim 1 recites "…beliefs in the safety and value of healthcare services, healthcare partnering preferences and information-seeking preferences…". These assessments of an individual provide an element that allows for an estimation of how a specific individual is likely to utilize available healthcare resources (i.e., information seeking preferences that can be accommodated by automated systems vs. those that will require personal physician time). Further, in the context of the instant invention, the establishment of a probability value and an associated threshold value allows for the definitive identification of a high-utilization patient profile. These features and their respective functions are neither anticipated nor made evident under any fair and reasonable rationale by the teachings of Wong et al.

Examiner would like to add an additional comment related to the inclusion of the teachings of Mebane et al. (United States Patent # 5,486,999). While Mebane et al. disclose a questionnaire/survey method to assess an individual's propensity to inappropriately utilize healthcare resources, the Mebane et al. disclosure is directed to assessing claims that can be categorized as "patient-driven care". While this indicates to the Examiner that Mebane is

assessing patient personality on some level, Mebane et al. fail to teach an assessment of the information-seeking preferences and beliefs of the patient regarding healthcare value. Mebane further fails to teach the establishment of a probability value and an associated threshold value.

Claim 46

Independent claim 46 is directed to a method of developing and implementing the predictive model employed by independent claim 1. Claim 46 requires the establishment of the predictive factor-based questionnaire, determination of a probability value, and the establishment of a threshold value. Accordingly, claim 46 is allowable over the prior art of record for reasons consistent with those identified with respect to claim 1.

Claims 2, 4, 8, 9, 22, 44-45, and 47-56

Claims 2, 4, 8, 9, 22, 44-45, and 47-56 all depend from allowable claims 1 and 46 and further recite features directed the determination of predictive factors and the development of the predicative model. Claims 2, 4, 8, 9, 22, 44-45, and 47-56 are allowable for reasons consistent with those identified with respect to claims 1 and 46.

Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

[6] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Predicting the Demand For Healthcare, Lynch, Wendy D C; Edington, DW, Johnson, Alan; *The Healthcare Forum Journal*; Jan/Feb 1996; 39,1.

The above noted article provides a general overview of the predictive value of questionnaire-based assessment of healthcare seeking behavior but fails to provide specific reference to the predictive modeling, the assessment of information-seeking preferences, and the establishment of probability values and thresholds for categorization of patients with respect to healthcare utilization employed by the instant invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. DAVID RINES whose telephone number is (571)272-5585. The examiner can normally be reached on 8:30am - 5:00pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, C. Luke Gilligan can be reached on 571-272-6770. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RDR

/C Luke Gilligan/
Supervisory Patent Examiner, Art Unit 3626